

# PATENT ABSTRACTS OF JAPAN

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**(54) TV COMMERCIAL BROADCAST CHECKING SIGNAL INSERTION  
METHOD AND SYSTEM THEREFOR AND TV COMMERCIAL BROADCAST  
CHECKING METHOD AND SYSTEM THEREFOR**

(57)Abstract:

PROBLEM TO BE SOLVED: To check a commercial message(CM) broadcast from a TV broadcasting station.

SOLUTION: The encoder of a TV commercial broadcast check system inserts CMID data for TV commercial identification into the vicinity of a head line or the vicinity of a final line in the CM video signal of one or two fields in the first and second fields constituting one frame in the TV commercial broadcast signal except for the vertical/horizontal blanking periods of the respective fields.

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## CLAIMS

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[Claim(s)]

[Claim 1]On the other hand except for vertical and a horizontal blanking period in the 1st and 2nd field that constitutes one frame of a TV-commercial-broadcasting signal[ near / or / near the last line near the head line of a CM video image signal of both fields ] A signal insertion method for a TV-commercial-broadcasting check which has a step which inserts CM and ID information for TV commercial discernment.

[Claim 2]A step which receives a TV-commercial-broadcasting signal transmitted from two or more TV broadcast stationsrespectivelyOne frame of said TV-commercial-

broadcasting signal which received. On the other hand except for vertical and a horizontal blanking period in the 1st and 2nd field to constitute or a step which extracts CM and ID information for TV commercial discernment inserted near the last line near the head line of a CM video image signal of both fields A TV-commercial-broadcasting check method which has a step which creates CM broadcasting actual results data based on said extracted CM and ID information.

[Claim 3]The TV-commercial-broadcasting check method comprising according to claim 2:

A step which stores beforehand two or more commercial voice data corresponding to two or more CM and ID information in a memory.

When said CM and ID information are extracted said CM and ID information and commercial voice data are called from said memory A step [ / these ] in order to obtain whether this commercial voice data and a commercial voice in said TV-commercial-broadcasting signal are in agreement.

A step which incorporates a comparison result of said commercial voice data and a commercial voice in said TV-commercial-broadcasting signal into said CM broadcasting actual results data.

[Claim 4]The TV-commercial-broadcasting check method according to claim 2 or 3 which has a step which transmits said CM broadcasting actual results data to a client of TV commercials via a network.

[Claim 5]Said CM broadcasting actual results data is transmitted to CM management center via a network The TV-commercial-broadcasting check method according to claim 2 or 3 which has a step which transmits to a client of TV commercials via a network after totaling said CM broadcasting actual results data in said CM management center.

[Claim 6]On the other hand except for vertical and a horizontal blanking period in the 1st and 2nd field that constitutes one frame of a TV-commercial-broadcasting signal [ near / or / near the last line near the head line of a CM video image signal of both fields ] A signal insertion system for a TV-commercial-broadcasting check provided with an encoder which inserts CM and ID information for TV commercial discernment.

[Claim 7]TV reception means which receives a TV-commercial-broadcasting signal transmitted from two or more TV broadcast stations respectively One frame of said TV-commercial-broadcasting signal which received. On the other hand except for vertical and a horizontal blanking period in the 1st and 2nd field to constitute or a CM-ID data extracting means which extracts CM and ID information for TV commercial discernment inserted near the last line near the head line of a CM video image signal of both fields A TV-commercial-broadcasting check system which has a CM broadcasting actual-results-data preparing means which creates CM broadcasting actual results data based on said extracted CM and ID information.

[Claim 8]A memory which stores beforehand two or more commercial voice data corresponding to two or more CM and ID information and when said CM and ID information are extracted Said CM and ID information and corresponding commercial voice data are called from said memory It has a commercial voice comparison means whether this commercial voice data and a commercial voice in said TV-commercial-broadcasting signal are in agreement and by which \*\* is compared The TV-commercial-broadcasting check system according to claim 7 which incorporates a comparison result

of said commercial voice data and a commercial voice in said TV-commercial-broadcasting signal into said CM broadcasting actual results data.

[Claim 9]The TV-commercial-broadcasting check system according to claim 7 or 8 provided with a means to transmit said CM broadcasting actual results data to a client of TV commercials via a network.

[Claim 10]Said CM broadcasting actual results data is transmitted to CM management center via a networkThe TV-commercial-broadcasting check system according to claim 7 or 8 provided with a means to transmit to a client of TV commercials via a network after totaling said CM broadcasting actual results data in said CM management center.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the signal insertion method for a TV-commercial-broadcasting checkthe systemTV-commercial-broadcasting check methodand system for confirming that the commercial message (CM) broadcast by the television (TV) broadcasting station is broadcast regularly.

[0002]

[Description of the Prior Art]Generallythe CM broadcasting by TV broadcast is broadcast by the contract between a broadcasting stationa sponsoretc. based on the schedule of a broadcasting datethe number of broadcast secondsetc. on which it decided beforehand. Howeverit is necessary to check that CM broadcasting may necessarily be broadcast as a schedulemay not be further broadcast at all by the mistake by the side of a TV broadcast stationand has actually been broadcast for a sponsor etc.

[0003]Conventionallythe method of checking CM audio signal among TV broadcast signals as a check method of this kind of commercial broadcastbased on an audio signalas shownfor example in JP7-79206A is proposed. As a method which the broadcasting station side checksas shownfor example in JP5-145851Athe character super signals which show CM name are superimposed and broadcast to CM video signaland the method of checking this visually by monitor is known.

[0004]

[Problem(s) to be Solved by the Invention]Howeverin the method of checking with CM audio signal of a TV broadcast signalalthough CM which does not contain a sound also exists and a CM video image is broadcast furthersince the audio signal of this CM may not be broadcast by the mistake by the side of a TV broadcast stationthere is a problem of being imperfect. By the wayin order to solve the above-mentioned problemthe ID information of CM is beforehand superimposed on the blanking period of a TV broadcast signaland how to check based on this ID information can be considered. Howeverthe gestalt by which CM raw material is supplied to a broadcasting stationAt the broadcasting station which may be based on a broadcasting electric-wave besides recording mediasuch as magnetic tapeand received supply. Since signals other than an image may be transposed to the thing of the broadcasting equipment of a local station and the ID information of CM on which it was superimposed at the blanking period is eliminated on the way thereforethere is a problem that it is imperfect also in this case.

[0005] This invention takes an example by the above-mentioned problemIt aims at providing the signal insertion method for a TV-commercial-broadcasting checkthe systemTV-commercial-broadcasting check methodand system for confirming certainly that the commercial message is regularly broadcast by the TV broadcast station.

[0006]

[Means for Solving the Problem]This invention to achieve the above objects near the last line near the head line of a video signal of TV commercialsinserting CM and ID information for TV commercial discernmentand checking this -- TV commercials of the desired contents -- a schedule -- how -- it enables it to confirm whether \*\*\*\*\* was carried out Namelyaccording to this inventionon the other hand except for vertical and a horizontal blanking period in the 1st and 2nd field that constitutes one frame of a TV-commercial-broadcasting signal[ near / or / near the last line near the head line of a CM video image signal of both fields ] A signal insertion method for a TV-commercial-broadcasting check which has a step which inserts CM and ID information for TV commercial discernment is provided.

[0007]A step which receives a TV-commercial-broadcasting signal transmitted from two or more TV broadcast stationsrespectively according to this inventionOne frame of said TV-commercial-broadcasting signal which received. On the other hand except for vertical and a horizontal blanking period in the 1st and 2nd field to constituteor a step which extracts CM and ID information for TV commercial discernment inserted near the last line near the head line of a CM video image signal of both fieldsA TV-commercial-broadcasting check method which has a step which creates CM broadcasting actual results data based on said extracted CM and ID information is provided.

[0008]According to this inventionon the other hand except for vertical and a horizontal blanking period in the 1st and 2nd field that constitutes one frame of a TV-commercial-broadcasting signal[ near / or / near the last line near the head line of a CM video image signal of both fields ] A signal insertion system for a TV-commercial-broadcasting check provided with an encoder which inserts CM and ID information for TV commercial discernment is provided.

[0009]TV reception means which receives a TV-commercial-broadcasting signal transmitted from two or more TV broadcast stationsrespectively according to this inventionOne frame of said TV-commercial-broadcasting signal which received. On the other hand except for vertical and a horizontal blanking period in the 1st and 2nd field to constituteor a CM-ID data extracting means which extracts CM and ID information for TV commercial discernment inserted near the last line near the head line of a CM video image signal of both fieldsA TV-commercial-broadcasting check system which has a CM broadcasting actual-results-data preparing means which creates CM broadcasting actual results data based on said extracted CM and ID information is provided.

[0010]

[Embodiment of the Invention]Hereafteran embodiment of the invention is described with reference to drawings. The explanatory view showing one embodiment of the TV-commercial-broadcasting check method which requires drawing 1 for this inventionThe explanatory view in which drawing 2 shows the format of CM and ID informationthe explanatory view in which drawing 3 shows the distribution method of a TV-CM raw materialThe block diagram showing the reception check terminal applied to the TV-commercial-broadcasting check system which drawing 4 requires for this inventionThe

explanatory viewdrawing 6and drawing 7 which drawing 5 shows the CM broadcasting data collected with a reception check terminal are an explanatory view showing the TV-commercial-broadcasting check network concerning this invention.

[0011]As shown in drawing 1in the TV-commercial-broadcasting check method and system concerning this invention. On the other hand except for vertical and the horizontal blanking period in the 1st and 2nd field (an odd number field and an even number field) of the TV-commercial-broadcasting signal of NTSC system[ near / or / near the last line near the head line of the CM video image signal of both fields ] CM and ID information for TV commercial discernment are inserted. And one frame consists of the 1st and 2nd field of a TV-commercial-broadcasting signal.

[0012]Namelyalthough CM and ID information are inserted in the head line or last line of a CM video image signal of one side or both in this embodiment except for vertical and the horizontal blanking period in the 1st and 2nd field that constitutes one frame of a TV-commercial-broadcasting signal[ of the field ] It is also possible for it not to be limited to this and to insert [ near / which cannot be easily conspicuous to the public notice / near the last line near the head line ] CM and ID information.

[0013]In inserting the above-mentioned CM and ID information per frame (the 1st and 2nd field)Also in the case of the digital TV broadcasting which compresses CM and ID information since both the fields of two lines in all will be inserted if the same data is inserted near the last line near the head line of the CM video image signal of both the fieldsand broadcastsit can respond.

[0014]Thereforesince the CM video image signal which inserted CM and ID information is a signal certainly broadcastit does not have lack of CM and ID informationand since it is inserting in the part which is on TV monitor and moreover cannot view CM and ID information easilythose who look at TV have an advantage -- he hardly needs to be noticed. When CM and ID information are inserted near the head line of a CM video image signalrecording becomes possible with VTR (videotape recorder) for home useand on the other handwhen CM and ID information are inserted near the last line of a CM video image signalit becomes more difficult to be conspicuous.

[0015]CM and ID information are constituted by the top word for a synchronization (SYNC)and the data word (CM and ID information) and the last CRC word following it as shown in drawing 2and as for these numeralsthe run length Limited code is used. What is necessary is just to insert [ near / which constitutes one frame for CM and ID information / near the last line near the head line of the CM video image signal of both 1st and 2nd field ] the same dataalso when a digital broadcasting signal comprises 480H like an MPEG system.

[0016]Thusin order to deliver CM raw material which inserted CM and ID information to a TV broadcast stationAs shown in drawing 3a commercial film or commercial videotape is created firstthe commercial message (CM) currently subsequently to these commercial films or commercial videotape recorded is editedand master videotape is created.

Subsequentlythis master videotape is set to the 1st VTR(videotape recorder) 2 linked to the encoder 1and it plays. By setting CM number (CM and ID information) of applicable CM in master videotape from CM number input part 1a of the encoder 1 hereIt is inserted [ near / where CM and ID information of the format shown in drawing 2 in the video signal processing circuit 1b correspond / near the last line near the head line of the CM video image signal of CM ]. And CM raw material is created by recording the signal

which inserted CM and ID information on magnetic tape via the 2nd VTR3 linked to the encoder 1. When creating CM raw material it may change into magnetic tape and a recordable disk may be used.

[0017] Then CM raw material which inserted CM and ID information in the CM video image signal is distributed to a TV broadcast station by copy videotape and the broadcasting electric-wave. And if a TV broadcast station broadcasts based on the schedule of a broadcasting date the number of broadcast second setc. on which it decided beforehand by the contract between sponsors etc. using this CM raw material it will be transmitted from a TV broadcast station by signal aspect as shown in drawing 1. In the TV-commercial-broadcasting check method and system which the above-mentioned encoder 1 requires for this invention It is apparatus for inserting [ near / which constitutes one frame / near the last line near the head line of the CM video image signal of one side of the 1st and 2nd field or both ] CM and ID information for TV commercial discernment before TV broadcast.

[0018] Next the reception check terminal applied to the TV-commercial-broadcasting check method and system concerning this invention is explained using drawing 4 and drawing 5. The reception check terminal 10 shown in drawing 4 receives the TV commercial broadcasting broadcast from a TV broadcast station using said CM raw material (drawing 3) The broadcast actual results data of CM which extracted CM and ID information from the CM video image signal of this TV-commercial-broadcasting signal and was broadcast based on extracted CM and ID information is created.

[0019] Namely in order that the above-mentioned reception check terminal 10 may receive all the TV broadcast stations in receiving area it has the channel treating part 11-1 of the number of channels - 11-N Each of these channel treating parts 11-1 - 11-N The antenna 12 TV receiving circuit. (Tuner) 13 the video signal processing circuit 14 the sound signal processing circuit 15 CM and an ID code extracting circuit 16 the CM broadcasting actual-results-data preparing part 17 CM voice data memory 18 the switch 19 the CM voice delay circuit 20 CM voice comparison circuit 21 VTR. (Videotape recorder) It has 22. It has the clock 23 the CM broadcasting track record data file 24 and the modem 25 which can be shared to two or more channel treating parts 11-1 - 11-N.

[0020] Here for example in the channel treating part 11-1. After the antenna 12 receives the TV broadcast signal transmitted from two or more TV broadcast stations in receiving area respectively The TV broadcast signal of a specific channel is chosen in the TV receiving circuit 13 and the selected TV broadcast signal is divided into a video signal and an audio signal in the video signal processing circuit 14 and the sound signal processing circuit 15. Subsequently when CM and ID information are inserted in the CM video image signal of a TV-commercial-broadcasting signal among the TV broadcast signals from the video signal processing circuit 14 CM and the ID code in data are extracted by CM and the ID code extracting circuit 16 based on a SYNC word (drawing 2). Subsequently the specific channel number (TV broadcast station name) chosen in the TV receiving circuit 13 as the CM broadcasting actual-results-data preparing part 17 showed to drawing 5 based on extracted CM and the ID code The time and the frame number of a broadcast date the time of a CM broadcasting start and a frame number and the end of CM broadcasting are created with the gestalt of a table by the clock 23 which displays current time.

[0021] Under the present circumstances although how to confirm whether CM and an ID

code were only detected as a method of confirming whether CM is regularly broadcast in accordance with the contract can be consideredIt can check correctly [ a frame ] at several units by checking further the broadcasting hours containing the number of broadcast secondsand too much frame number. Thereforein the CM video image check by CM and an ID codea CM broadcasting failure by mistakea CM broadcasting time differenceetc. by the side of a TV broadcast station can be checked.

[0022]Two or more CM voice data corresponding to two or more CM and ID information is beforehand stored in CM voice data memory 18 provided in the reception check terminal 10. And when CM and an ID code are extracted in CM and the ID code extracting circuit 16CM and ID information applicable from CM voice data memory 18and corresponding CM voice data are called and outputted. On the other handamong the audio signals processed in the sound signal processing circuit 15CM audio signalonly when CM and an ID code are extractedit is sent to the CM voice delay circuit 20 via the switch 19and in CM audio signal under receptionCM voice data and abbreviated timing from CM voice data memory 18 become the same in this CM voice delay circuit 20 -- grade delay is carried out and it is outputted. And CM voice data called from CM voice data memory 18 when CM and an ID code were extractCM sound under reception outputted from the CM voice delay circuit 20 is compared in CM voice comparison circuit 21it judges whether both are in agreementand the above-mentioned CM broadcasting actual-results-data preparing part 17 is told about this resultand as shown in drawing 5the quality of CM sound is created with the gestalt of a table.

[0023]Thereforeby CM voice checkin spite of being a CM video image signal with a commercial voicethe case where only a CM video image signal is transmitted by the mistake by the side of a TV broadcast station can be checkedand also when it occasionally differs from the commercial voice set up beforehandit can check.

[0024]Although the above-mentioned CM video image check and CM voice check were carried out and explained during TV broadcastthey may once record a TV-commercial-broadcasting signal on VTR among the TV broadcast signals received in the TV receiving circuit (tuner) 13and may check by the signal which reproduced this.

[0025]Nextin the CM broadcasting track record data file 24two or more CM broadcasting actual results data createdrespectively by two or more channel treating parts 11-1 - the CM broadcasting actual-results-data preparing part 17 of 11-N is stored. Thenit has transmitted to the terminal 30 of CM management center which mentions later two or more CM broadcasting actual results data stored in the CM broadcasting track record data file 24 with every predetermined time and polling via a network with the modem 25.

[0026]Nextthe network which applied the TV-commercial-broadcasting check method and system concerning this invention is explained using drawing 6 and drawing 7. As shown in drawing 6the TV-commercial-broadcasting check network leads in all parts of Japan via ISDN of Nippon Telegraph and Telephone CORP. This network consists of a network for data collection connected between two or more sets of the reception check terminals 10 (10-110-2--10-n)and CM management centerand a network for a data inspection connected between CM management centerand an advertising agency and an advertiser. Under the present circumstancesas for two or more sets of the reception check terminals 10 (10-110-2--10-n)about two per all prefectures are installedfor exampleand about 100 sets are installed in the Japan whole country.

[0027]And as shown in drawing 7the terminal 30 of CM management center collected

two or more CM broadcasting actual results data transmitted via the network for data collection from the reception check terminal 10 of every placeand has managed it intensively. Under the present circumstancesin the terminal 30 of CM management centertotal nationally for every client of CM and ID informationand corresponding TV commercials from two or more CM broadcasting actual results dataor it totals according to a TV broadcast stationor has totaled suitably according to further various kinds of items. Thenthe CM broadcasting actual results data which totaled in the CM management center is reported to an advertising agency and an advertiser via the network for a data inspectionor it has become as [ peruse / an advertising agency and an advertiser / the CM broadcasting actual results data which totaled in the CM management center independently ]. Thereforethe client of TV commercialsWithout checking the CM broadcasting mistake by the mistake by the side of a TV broadcast stationetc. visuallyapplying many persons during CM broadcastingA CM broadcasting mistake can be automatically known with the CM broadcasting actual results data obtained via the network for a data inspectionand cautions can be urged to the TV broadcast station side from a client side based on this result.

[0028]

[Effect of the Invention]As explained aboveaccording to this inventionon the other hand except for vertical and the horizontal blanking period of each fieldall over the 1st and 2nd field that constitutes one frame of a TV-commercial-broadcasting signal[ near / or / near the last line near the head line of the CM video image signal of both fields ] Since CM and ID information for TV commercial discernment were insertedit can be confirmed certainly whether the commercial message (CM) was regularly broadcast by the TV broadcast station. Since the CM video image signal which inserted CM and ID information is a signal certainly broadcastit does not have lack of CM and ID informationand since it is inserting in the part which is on TV monitor and moreover cannot view CM and ID information easilythose who look at TV have an advantage -- he hardly needs to be noticed. Since CM and ID information for TV commercial discernment are extracted from the CM video image signal of the received TV-commercial-broadcasting signal and the CM broadcasting actual results data corresponding to extracted CM and ID information is createdWithout checking the CM broadcasting mistake by the mistake by the side of a TV broadcast stationetc. visuallyapplying many persons during CM broadcastingthe client of TV commercials can know a CM broadcasting mistake automaticallyand can urge cautions to the TV broadcast station side from a client side based on this result.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1]It is an explanatory view showing one embodiment of the TV-commercial-broadcasting check method concerning this invention.

[Drawing 2]It is an explanatory view showing the format of CM and ID information.

[Drawing 3]It is an explanatory view showing the distribution method of a TV-CM raw material.

[Drawing 4]It is a block diagram showing the reception check terminal applied to the TV-

commercial-broadcasting check system concerning this invention.

[Drawing 5]It is an explanatory view showing the CM broadcasting data collected with a receiving terminal.

[Drawing 6]It is an explanatory view showing the TV-commercial-broadcasting check network concerning this invention.

[Drawing 7]It is an explanatory view showing the TV-commercial-broadcasting check network concerning this invention.

[Description of Notations]

1 Encoder

1a CM number input part

1b and 14 Video signal processing circuit

10 Reception check terminal

11-1-11-N Channel treating part

12 Antenna

13 TV receiving circuit

15 Sound signal processing circuit

16 CM and an ID code extracting circuit

17 CM broadcasting actual-results-data preparing part

18 CM voice data memory

20 CM voice delay circuit

21 CM voice comparison circuit

23 Clock

24 CM broadcasting track record data file

25 Modem

30 The terminal of CM management center

